California Public Utilities Commission

RENEWABLES PORTFOLIO STANDARD

Quarterly Report

2nd Quarter 2015

I. ABOUT THE RPS AND THIS REPORT

California is aggressively bringing renewable generation online to meet its Renewables Portfolio Standard (RPS), one of the most ambitious renewable standards in the country.

California's RPS[1] requires retail sellers, investor-owned utilities (IOUs), electric service providers (ESPs) and community choice aggregators (CCAs) regulated by the California Public Utilities Commission (CPUC) to procure 33% of their annual retail sales from eligible renewable sources by 2020. Retail sellers must achieve intermediate RPS targets of 20% from 2011-2013 and 25% from 2014-2016. The CPUC and the California Energy Commission (CEC) are jointly responsible for implementing California's 33% RPS program.

While the RPS program is the primary vehicle for new utility-scale renewable energy development in California, there are other programs that stimulate development of customer-side renewable generation. The California Solar Initiative (CSI) and Self-Generation Incentive Program (SGIP) provide incentives for customers to install renewable distributed generation technologies that directly serve their on-site load.[2] Electricity generated from power systems installed under CSI and SGIP may contribute to meeting RPS targets provided they meet eligibility requirements established by the CEC.[3] In addition, electricity generated by these facilities indirectly contributes to the RPS by reducing demand when serving customer load.

Every quarter the CPUC issues an update on the RPS program as directed by the 2006 Budget Act Supplemental Report Item 8660-001-0462. The report focuses on California's three large IOUs, which provide approximately 68% of the state's electric retail sales: Pacific Gas and Electric Company (PG&E), Southern California Edison (SCE), and San Diego Gas & Electric (SDG&E).

[1] Codified in Public Utilities Code §§ 399.11 – 399.32, California's 20% RPS by 2020 was established in 2002 under Senate Bill (SB) 1078 (Sher) and modified in 2006 under SB 107 (Simitian). SB 2 of the First Extraordinary Session (SB 2 (1X)) (Simitian) (Stats. 2011, ch.1) expanded the mandate to a 33% RPS by 2020.

[2] More information on the CSI and SGIP can be found on the CPUC's website: http://www.cpuc.ca.gov/PUC/energy/DistGen/.

[3] In the case of renewable customer generation, the system-owner owns the renewable energy credits (RECs), but could sell the RECs to retail sellers to contribute to their RPS targets.

II. EXECUTIVE SUMMARY

Status of RPS Procurement

- On August 1, 2014, the three large IOUs reported that they collectively served 20.9% of their retail electric load with RPS-eligible generation during the 2011-2013 compliance period. PG&E served 20.6% of its 2011-13 retail sales with RPS-eligible renewable energy, SCE with 20.7% and SDG&E with 21.6%, meeting the procurement requirement in SB 2 (1X) of averaging 20% renewable energy during 2011-13.
- During the 2014-2016 compliance period the large IOUs expect to exceed the requirement of procuring 25% of retail sales from RPS-eligible resources by 2016.[4] The three large IOUs anticipate procuring about 26.8% of retail sales in 2014, about 29.7% in 2015, and about 30.9% in 2016.
- Since 2003, 11,054 MW of renewable capacity achieved commercial operation under the RPS program. In 2015, 739 MW of renewable capacity has reached commercial operation.

Highlights of Recent Events

- In the first quarter of 2015 the CPUC approved eight RPS contracts, representing 1,560 MW.
- February 10-11, 2015, CPUC staff conducted a workshop to discuss a new RPS calculator. This calculator will replace the 2010 RPS Calculator that was integrated into the biennial Long Term Procurement Proceeding to ensure that system and transmission planning processes account for the renewable resources needed for the State to meet its Renewable Portfolio Standard goals.

[4] All RPS forecasts are subject to verification by the California Energy Commission. The figures presented in this report are preliminary forecasts that are self-reported by the large IOUs and have not been risk adjusted in any capacity. Eligible technologies include: biomass, biodiesel, fuel cells, digester gas, geothermal, landfill gas, municipal solid waste, ocean wave, ocean thermal, tidal current, solar photovoltaic, small hydroelectric, solar thermal, and wind.

III. PROGRESS TOWARDS A 33% RPS BY 2020

California is aggressively procuring renewable generation to ensure that 33% of retail sales are met with renewable energy resources by 2020. The figure below shows progress toward meeting that mandate, on a risk adjusted basis.[5] The IOUs reported meeting the 20% requirement for 2011-13 in their RPS Procurement Progress Reports.[6,7,8] These reports predict that the IOUs are on track to meet the RPS requirement of 25% renewables by 2016 and are well-positioned to meet the 33% requirement by 2020.

The figure on the next page forecasts a surplus of renewable generation for 2014-16 and a deficit for 2017-20. IOUs have the option to apply excess procurement in 2011-13 and 2014-16 RPS procurement toward meeting RPS obligations in 2017-20 or beyond. In order to achieve 33% in 2020 and every year thereafter, IOUs are also planning for additional procurement in 2015-20 and post-2020.

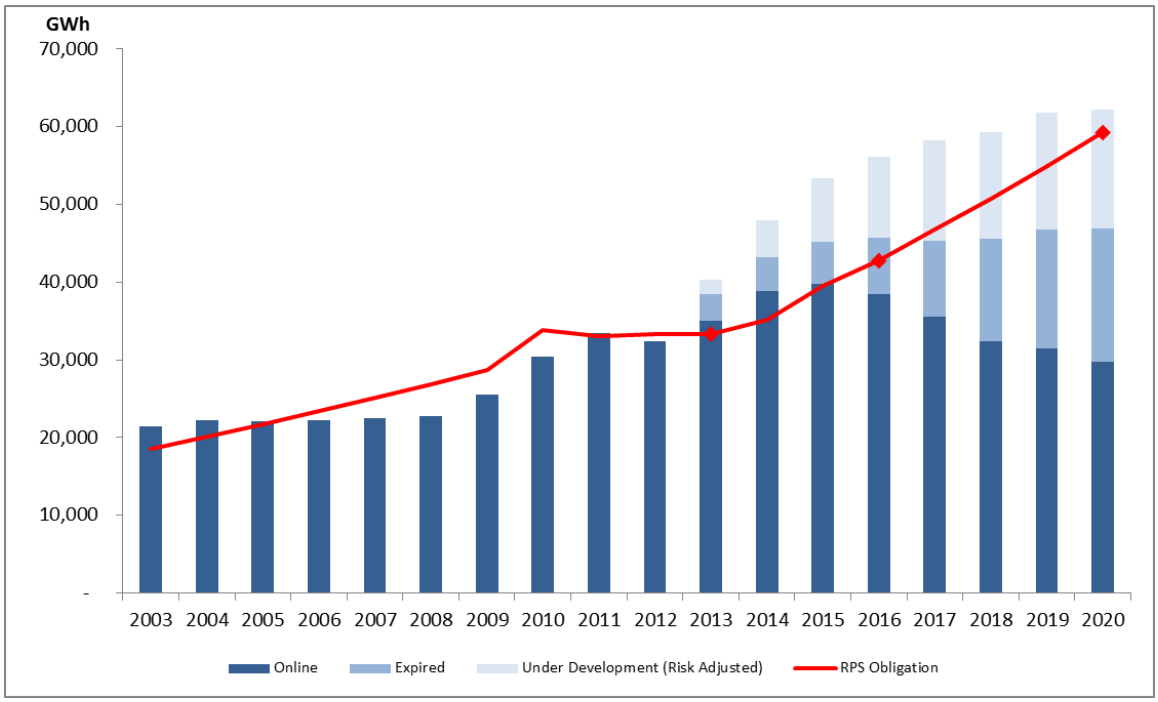
[5] Values are risk adjusted to account for a certain degree of project failure. Failure rate assumptions are provided by the IOUs in their 2014 RPS Plans. On average, PG&E assumes a 10% failure rate for new projects not yet online, SCE assumes a 25% failure rate and SDG&E assumes a 14% failure rate.

[6] The California Energy Commission (CEC) is responsible for verifying RPS procurement claims for each compliance period.

[7] Retail sellers are required to submit Final Verified RPS Compliance Reports to the CPUC after the CEC has completed its' verification analysis. The CPUC uses the CEC's verification analysis to make a final determination of retail sellers' RPS compliance positions. The CEC anticipates that they will complete their verification analysis for the first compliance period (2011-2013) in Q4 2015.

[8] Retail sellers are required to submit Procurement Progress Reports on August 1, each year to demonstrate progress towards the RPS procurement requirements. The results of RPS Procurement Progress Report submissions are preliminary until the CEC completes its' verification analysis.

Figure 1: IOU progress towards 33% renewables, actual and forecasted by year [9, 10, 11]



[9] Data Source: 2003-2010 data sourced from the Final 20% RPS Closing Report (January 2014); 2011-2020 data sourced from the Annual 33% Compliance Reports (August 2014).

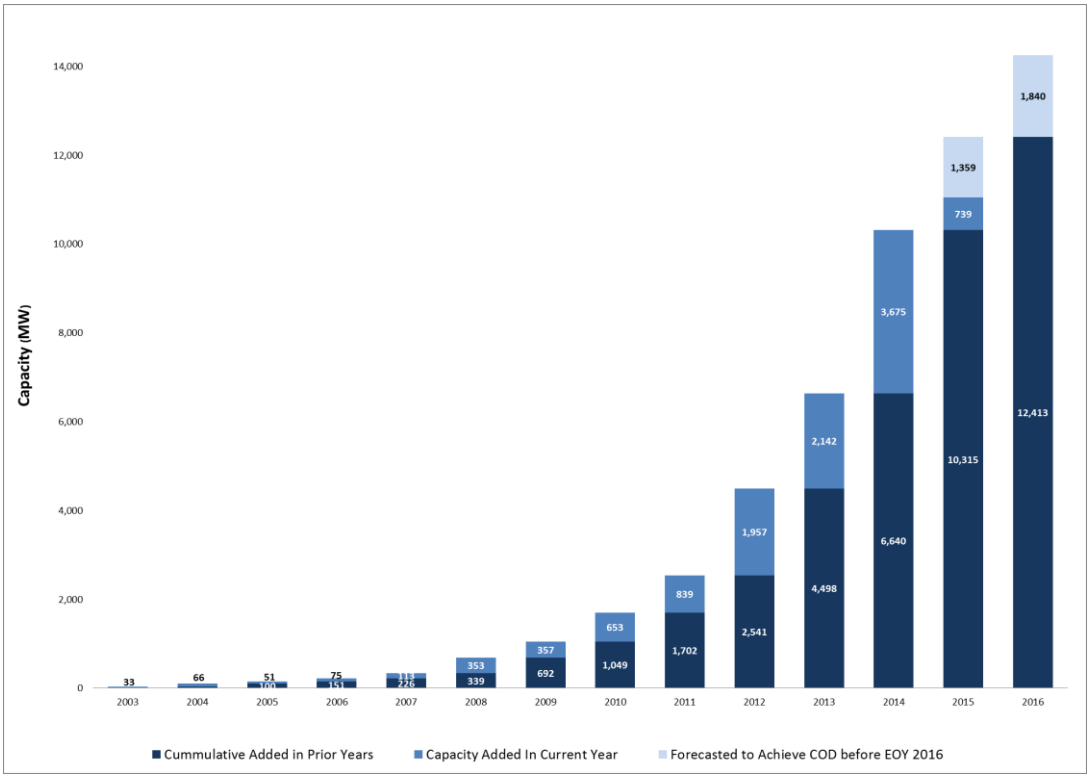
[10] The RPS obligation varies to reflect the targets defined in SB 2 (1X); 20% by December 31, 2013, 25% by December 31, 2016 and 33% by 2020.

[11] The "Expired" field in this chart represents the amount of generation associated with facilities that no longer have a PPA with one of the Large IOUs. Although this generation is not under contract there is a high likelihood that one of the Large IOUs will re-contract with these facilities.

CPUC APPROVED RENEWABLE CAPACITY ADDED IN 2015

Since 2003, 11,054 MW of renewable capacity achieved commercial operation under the RPS program. In 2015, 739 MW of renewable capacity has reached commercial operation. An additional 1,359 MW of renewable capacity is forecasted to achieve its' commercial operation date (COD) in 2015.

Figure 2: RPS capacity installed since 2003 by year [12, 13]



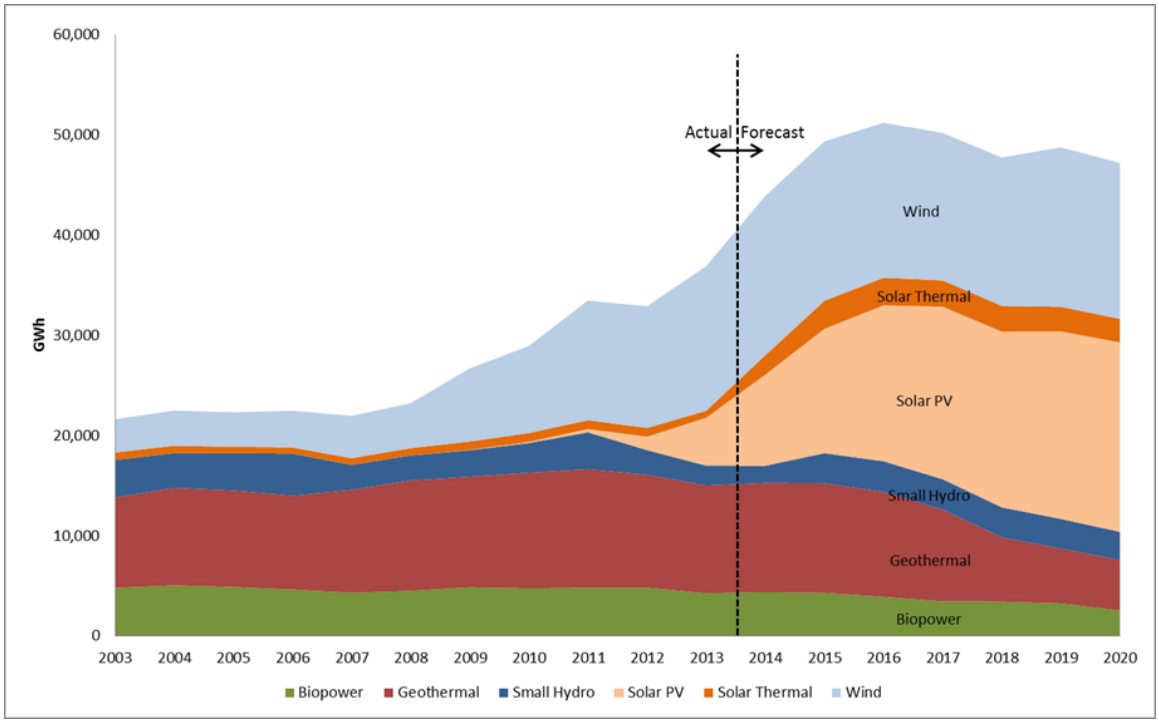
[12] Data Source: IOU submissions to the RPS Contract Database (March 16, 2015)

[13] The actual capacity data for 2014 in this report (3,675 MW) differs from the forecast capacity data in the Q4 2014 RPS quarterly report (3,529 MW) because more projects achieved COD than initially forecasted in Q4 2014.

RPS RENEWABLE RESOURCE MIX

The mix of technologies bidding into and receiving power purchase agreements (PPAs) through RPS solicitations has shifted over the life of the RPS program. In 2014, wind contributed 36% and geothermal contributed 25%, supplying the majority of California's renewable generation. The generation mix in 2020 is expected to reflect a considerable increase in generation from new solar PV. Solar PV and solar thermal generating facilities are forecasted to contribute 40% and 5%, respectively, of the state's total renewable generation by 2020.[14] The figure below displays California's actual and forecasted mix of renewable generation by technology type through 2020.

Figure 3: Renewable resource mix, actual and forecasted by year [15]



Biopower is defined as biomass and biogas technologies.

[14] The actual forecast will be updated after the IOUs submit the Annual 33% Compliance report on September 4, 2015.
[15] Data Source: IOUs' Annual 33% Compliance Reports (August 1, 2014). Figure 3 only depicts existing IOU renewable contracts. It does not account for facilities that may be online and may receive new contracts after their current contracts expire.

RPS CONTRACTING ACTIVITIES IN 2015

Since 2002, the CPUC has approved more than 418 RPS PPAs for over 21,600 MW of renewable capacity. As Table 1 below shows, the CPUC approved eight additional contracts in the first quarter of 2015, representing 1,560 MW of RPS capacity.

Table 1: IOU RPS-eligible Advice Letters submitted and/or approved in 2015 [16,17,18]

		PGE		SCE		SDGE		Total	
		Number of Advice Letters	MW	Number of Advice Letters	MW	Number of Advice Letters	MW	Number of Advice Letters	MW
Q1	Submitted	0	0	0	0	0	0	0	0
	Pending	0	0	0	0	0	0	0	0
	Approved	1	5	7	1,555	0	0	8	1,560
Q2	Submitted	1	0	1	0	1	0	3	0
	Pending	1	0	1	0	1	0	3	0
	Approved	0	0	0	0	0	0	0	0

[16] Data Source: IOU submissions to the RPS Contract Database (June 15, 2015)

[17] In Q2 PG&E, SCE and SDG&E each submitted an Advice Letter to modify specific components of their Renewable Auction Mechanism (RAM) Program for the sixth RAM Solicitation. These Advice Letters did not have any capacity value associated with them.

[18] "Submitted" refers to the number of RPS contracts that were filed to the CPUC in a given quarter. "Pending" refers to how many advice letters were awaiting approval at the end of a given quarter.

IV. RECENT AND UPCOMING EVENTS

Timing	Deliverable	Notes
April 13, 2015	RPS Calculator Post-Workshop Ruling	Presented draft staff work plan for completing revisions to the RPS Calculator and solicited feedback on key remaining issues
April 16, 2015	Prehearing Conference	To discuss ideas and identify priorities for the procurement process for the new RPS proceeding (R.15-02-020).
May 22, 2015	Scoping Memo	Identify scope of issues to be considered in the RPS proceeding (R.15-02-020).
May 22, 2015	Ruling on 2015 RPS Procurement Plans	Directs Investor-owned Utilities and Electric Service Providers to file 2015 RPS Procurement Plans
June 12, 2015	Public Teleconference	Discuss SCE's report on production cost simulations results for calculating the variable component of marginal integration adder. Inform parties' written comments as provided in the Administrative Law Judge's Ruling in R. 13-12-010 issued on March 27, 2015.
August 2015	Ruling on Land Use Considerations in RPS Calculator	Solicit stakeholder comments on land-use considerations that should be addressed in the RPS calculator.
September 2015	Ruling on Effective Load Carrying Capability (ELCC) Methodology	Solicit stakeholder comments on ELCC staff proposal. The proposal will include an ELCC methodology for the large IOUs to use when evaluating RPS offers in an RPS RFO.